AMENDMENTS TO THE SPECIFICATION

Please amend the Specification as follows and enter the replacement drawing sheets that are being contemporaneously submitted.

Amend the third full paragraph on page 13 of the specification as follows:

In the discrete scanning mode, scanning is first performed in a translational stage wherein the focused transducers are moved in small steps or increments in an x-y plane orthogonal to the direction of the radiated confocal beam. The steps or increments are referred to as the scanning resolution. At each step or increment, the transducer pair 12, 14 makes an ultrasonic measurement at a confocal point 11 ~~(~~ in the x, y, z plane~~), at a confocal resolution~~. The confocal point or resolution represents the resolution of the ultrasonic wave at the convergence point (i.e., x. y, z) and is determined at the manufacturing stage as a function of the construction of the transducer pair 12, 14. It is noted that the confocal resolution is independent of the scanning resolution, however, they are generally of the same order. For example, as noted above, the confocal point may be on the order of 0.5 mm and the scanning resolution may be as fine as on the order of 0.1 mm. In this case, the confocal resolution envelops or captures five scanning steps. The peak of the confocal intensity will therefore be directed to a central scanning step with the adjacent scanning steps providing additional information.

Amend the second full paragraph on page 14 of the specification as follows:

In the continuous scanning mode, a plane is scanned continuously, in contrast to the incremental shifting described above for the discrete scanning mode. In the continuous scanning mode the transmitting transducer 12 and the receiving transducer 14 are moved continuously across a scanning line (for example, in the horizontal x direction) and interrogation pulses are continuously emitted from the transmitting transducer 12 and received by the receiving transducer ~~14~~14. The ultrasonic data emitted and received by the

transducers 12, 14 is correlated to the scanning position in the bone by a control computer 22. The computer 22 correlates the control (timing) signals sent to the stepper motor which is in turn correlated to a position on the bone specimen (x, y, z).

Amend the second full paragraph on page 27 as follows.

At step 408, three values may be generated by computer 22 using the emitted and received ultrasonic wave at each scan point (x, y, z) of the bone sample: a broadband ultrasonic attenuation (BUA) value, an ultrasound attenuation number (ATT) value, and an ultrasound velocity (UV) value. The BUA and ATT values represent two different forms of ultrasound attenuation (UA). BUA represents the slope of attenuation as a function of frequency. The ultrasound velocity (UV) image represents the ultrasonic velocity through the bone specimen. Ultrasound attenuation number (ATT) image represents the energy decay attenuation as a function of material density. Generation of BUA, ATT and UV by computer 22 from the various scan data acquired and stored in memory ~~22~~ 27 is further described below.